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10/622,519	07/18/2003	Dieter Cherek	P03,0242	4104

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EXAMINER	
CONOVER, DAMON M	
ART UNIT	**PAPER NUMBER**
2624	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/622,519	CHEREK ET AL.	
	Examiner	Art Unit	
	Damon Conover	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/7/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed 7 May 2007 has been entered and made of record.

Response to Arguments

2. The applicant has corrected the issues of insufficient antecedent basis; therefore the rejections of claims 1, 13, and 26, under 35 U.S.C. §112, have been withdrawn.

3. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

4. Claim 13 is objected to because of the following informalities: it appears to contain a typographical error. The examiner has assumed that, on line 9 the claim, "said first and image-recording device" should be "said first and second image-recording device". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3, 8, 14, 16, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Born et al. (U.S. Patent 4,609,940), the book, Digital Image Processing: Principles and Applications, by Gregory A. Baxes, and Brunner et al. (U.S. Patent Publication 2003/0100998), in view of Kuth et al. (DE 19508715).

With respect to claim 1, Born et al. disclose a radiodiagnostic device with a motor-adjustable table (patient bed), motor-adjustable primary radiation diaphragm (treatment unit), and a microcomputer 17 (Figure 2 and column 1, lines 7-10). The motor-adjustable table (patient bed) is movable in the longitudinal and transverse directions (column 2, lines 33-37). The device includes a television camera 10 (image-recording device) for acquiring an image of an exterior of the patient on the table (patient bed) and displaying the image on a monitor 12 (display screen) that is connected to the microcomputer 17. For adjusting the table 1, the region of interest is marked on the monitor 12 with light pen 13 and thereafter the table 1 is adjusted so that the marked region (suggested scan region) is automatically displayed in the center of the monitor 12 and is optimally focused (column 2, lines 12-22). In order for the coordinates of the patient on the monitor 12 to correspond to the actual coordinates of

the patient, it is inherent that the computer identifies a spatial correlation between the treatment unit and the image-recording device.

Born et al. does not describe that a subtraction image is obtained by subtracting an empty image of a patient bed from the image of a patient on the patient bed.

Baxes describes that is well-known in the field of image processing to remove common background image information from images of identical scenes by subtracting one image from another. The image resulting from the subtraction shows only the foreground objects of interest. The static background elements are eliminated (page 335 and Figures IOS.5a-c).

It would have been obvious to one of ordinary skill in the art at the time of the invention to segment the image, as taught by Baxes, before the radiodiagnostic device of Born et al. displays it on a monitor, in order to discriminate between the pixels which make up the patient and those which make up the background and the patient bed (Brunner et al., paragraph 295).

Born et al. describe that an operator chooses the patient body region using a light pen. Neither Born et al., Baxes, nor Brunner et al. describe that a body region is detected by analyzing the acquire image.

Kuth et al. disclose a method for positioning a patient on a table in a medical diagnostic device. The method uses an imaging device 12 to detect an investigation region (body region) of a patient by analyzing an image of the patient including marking 18. The image processor 16 recognizes the marking in the image and determines its spatial position 20. The patient table control device 22 determines the travel path of the

patient table from the spatial position and the investigational position, and then the patient is moved along the correct path for examination (basic-abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the step of detecting an investigation region (body region) by analyzing an image, as taught by Kuth et al., in the radiodiagnostic device of Born et al., Baxes, and Brunner et al., in order to allow the detection of an investigation region (body region) without requiring an operator to interact with the system.

With respect to claim 3, Born et al. describe that the region of interest is marked on the monitor 12 with light pen 13 and thereafter the table 1 is adjusted so that the marked region (suggested scan region) is automatically displayed in the center of the monitor 12 and is optimally focused (optically emphasized) (column 2, lines 12-22).

With respect to claim 8, Born et al. describe that the region of interest (suggested scan area) is marked on the monitor 12 with light pen 13, and the table 1 is adjusted so that the marked region (suggested scan region) is automatically displayed in the center of the monitor 12 (manual alteration of the suggested scan area displayed on the display screen) (column 2, lines 12-22).

With respect to claims 14, 16, and 21, the "arrangement for positioning a patient in a medical device" corresponds to the "method for positioning a patient in a medical device" of claims 1, 3, and 8. The argument is the same as is addressed above.

6. Claims 2, 4-7, 9-10, 13, 15, 17-20, 22-23, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Born et al., Baxes, Brunner et al., and Kuth et al. as applied to claims 1, 3, 8, 14, 16, and 21 above, and further in view of Banks et al. (U.S. Patent 6,674,449).

With respect to claims 2 and 7, as discussed above, Born et al. disclose a radiodiagnostic device with a motor-adjustable table (patient bed), motor-adjustable primary radiation diaphragm (treatment unit), and a microcomputer 17 (Figure 2 and column 1, lines 7-10). As discussed above, Baxes describes that is well-known in the field of image processing to remove common background image information from images of identical scenes by subtracting one image from another (page 335 and Figures IOS.5a-c). As discussed above, Kuth et al. disclose a method for positioning a patient on a table in a medical diagnostic device (basic-abstract).

Neither Born et al., Baxes, Brunner et al., nor Kuth et al. describe that two different body regions are detected and displayed.

Banks et al. disclose a system which can be used to interface with any of several different medical imaging system types (column 1, lines 15-18). The system interface comprises a display and a programmed data processor for providing a uniform interface image on the display (column 5, lines 54-62). The system also includes a patient positioning system that receives commands to move a patient cradle and transport the patient to the desired position for the scan (column 7, line 65 – column 8, line 2). Banks et al. describe that the display screen is able to display a plurality of detected scan areas (Figure 6 and column 14, lines 52-55).

It would have been obvious to one of ordinary skill in the art at the time of the invention to display a plurality of scan areas on the same display screen, as taught by Banks et al., in the radiodiagnostic device of Born et al., Baxes, Brunner et al., and Kuth et al., in order to allow a technologist to select an image of a scan area from the plurality of detected scan areas (Banks et al., column 14, lines 45-48).

With respect to claims 4 and 6, as discussed above, Born et al. disclose a radiodiagnostic device with a motor-adjustable table (patient bed), motor-adjustable primary radiation diaphragm (treatment unit), and a microcomputer 17 (Figure 2 and column 1, lines 7-10). As discussed above, Baxes describes that is well-known in the field of image processing to remove common background image information from images of identical scenes by subtracting one image from another (page 335 and Figures IOS.5a-c). As discussed above, Kuth et al. disclose a method for positioning a patient on a table in a medical diagnostic device (basic-abstract).

Neither Born et al., Baxes, Brunner et al., nor Kuth et al. describe that a designation of the detected body regions is manually entered into the computer.

As discussed above, Banks et al. disclose a system which can be used to interface with any of several different medical imaging system types (column 1, lines 15-18). Banks et al. describe that the system includes a keyboard and a mouse (column 7, lines 4-10) and that a technologist can add, delete, or modify information corresponding to any of the information listed on the image (column 11, lines 3-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add information to an image containing the body region, as taught by Banks

et al., in the radiodiagnostic device of Born et al., Baxes, Brunner et al., and Kuth et al., in order to allow a technologist to include relevant information directly on the image.

With respect to claim 5, as discussed above, Born et al. disclose a radiodiagnostic device with a motor-adjustable table (patient bed), motor-adjustable primary radiation diaphragm (treatment unit), and a microcomputer 17 (Figure 2 and column 1, lines 7-10). As discussed above, Baxes describes that is well-known in the field of image processing to remove common background image information from images of identical scenes by subtracting one image from another (page 335 and Figures IOS.5a-c). As discussed above, Kuth et al. disclose a method for positioning a patient on a table in a medical diagnostic device (basic-abstract).

Neither Born et al., Baxes, Brunner et al., nor Kuth et al. describe that a designation of the detected body regions is manually entered into the computer.

As discussed above, Banks et al. disclose a system which can be used to interface with any of several different medical imaging system types (column 1, lines 15-18). Banks et al. describe that the system includes a keyboard and a mouse (column 7, lines 4-10) and that a technologist can add, delete, or modify information corresponding to any of the information listed on the image. The information is added, deleted, or modified by selecting an icon from a displayed menu (column 11, lines 2-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add information to an image containing the body region, as taught by Banks et al., in the radiodiagnostic device of Born et al., Baxes, Brunner et al., and Kuth et al., in order to allow a technologist to include relevant information directly on the image.

With respect to claims 9-10, as discussed above, Born et al. disclose a radiodiagnostic device with a motor-adjustable table (patient bed), motor-adjustable primary radiation diaphragm (treatment unit), and a microcomputer 17 (Figure 2 and column 1, lines 7-10). As discussed above, Baxes describes that is well-known in the field of image processing to remove common background image information from images of identical scenes by subtracting one image from another (page 335 and Figures IOS.5a-c). As discussed above, Kuth et al. disclose a method for positioning a patient on a table in a medical diagnostic device (basic-abstract). As discussed above, Banks et al. disclose a system which can be used to interface with any of several different medical imaging system types (column 1, lines 15-18). Banks et al. describe that the system includes a keyboard and a mouse (column 7, lines 4-10).

Neither Born et al., Baxes, Brunner et al., Kuth et al., nor Banks et al. specifically describe that a scan area is selected by arranging two lines at the edges of the desired scan area.

However, the examiner takes Official Notice (see MPEP 2144.03) that both the concept and the advantages of using a mouse to select an area in an image by arranging a box around the desired area are well known and expected in the art. By definition the box will contain two parallel lines at the edges of the suggested scan area.

It would have been obvious to one of ordinary skill in the art at the time of the invention select an area in an image by arranging a box around the desired area, in the radiodiagnostic device of Born et al., Baxes, Brunner et al., Kuth et al., and Banks et al., in order to allow a technologist to focus on one specific area of interest in the image.

With respect to claims 15, 17-20, and 22-23, the "arrangement for positioning a patient in a medical device" corresponds to the "method for positioning a patient in a medical device" of claims 2, 4-7, and 9-10. The argument is the same as is addressed above.

7. Claims 11-13 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Born et al., Baxes, and Brunner et al., and Kuth et al. as applied to claims 1, 3, 8, 14, 16, and 21 above, and further in view of Banks et al. and Cosman (U.S. Patent 6,405,072).

With respect to claims 11-13, as discussed above, Born et al. disclose a radiodiagnostic device with a motor-adjustable table (patient bed), motor-adjustable primary radiation diaphragm (treatment unit), and a microcomputer 17 (Figure 2 and column 1, lines 7-10). The motor-adjustable table (patient bed) is movable in the longitudinal and transverse directions (column 2, lines 33-37). The device includes a television camera 10 (image-recording device) for acquiring an image of an exterior of the patient on the table (patient bed) and displaying the image on a monitor 12 (display screen) that is connected to the microcomputer 17. For adjusting the table 1, the region of interest is marked on the monitor 12 with light pen 13 and thereafter the table 1 is adjusted so that marked region (suggested scan region) is automatically displayed in the center of the monitor 12 and is optimally focused (column 2, lines 12-22). In order for the coordinates of the patient on the monitor 12 to correspond to the actual coordinates of the patient, it is inherent that the computer identifies a spatial correlation between the treatment unit and the image-recording device. As discussed above, Baxes

describes that is well-known in the field of image processing to remove common background image information from images of identical scenes by subtracting one image from another (page 335 and Figures IOS.5a-c). As discussed above, Kuth et al. disclose a method for positioning a patient on a table in a medical diagnostic device. The method uses an imaging device 12 to detect an investigation region (body region) of a patient by analyzing an image of the patient including marking 18. The image processor 16 recognizes the marking in the image and determines its spatial position 20. The patient table control device 22 determines the travel path of the patient table from the spatial position and the investigational position, and then the patient is moved along the correct path for examination (basic-abstract).

Neither Born et al., Baxes, Brunner et al., nor Kuth et al. describe that two different body regions are detected and displayed.

Banks et al. disclose a system which can be used to interface with any of several different medical imaging system types (column 1, lines 15-18). The system interface comprises a display and a programmed data processor for providing a uniform interface image on the display (column 5, lines 54-62). The system also includes a patient positioning system that receives commands to move a patient cradle and transport the patient to the desired position for the scan (column 7, line 65 – column 8, line 2). Banks et al. describe that the display screen is able to display a plurality of detected scan areas (Figure 6 and column 14, lines 52-55).

It would have been obvious to one of ordinary skill in the art at the time of the invention to display a plurality of scan areas on the same display screen, as taught by

Banks et al., in the radiodiagnostic device of Born et al., Baxes, Brunner et al., and Kuth et al., in order to allow a technologist to select an image of a scan area from the plurality of detected scan areas (Banks et al., column 14, lines 45-48).

Neither Born et al., Baxes, Brunner et al., Kuth et al., nor Banks et al. describe that a second image of the patient is acquired with a second image-recording device.

Cosman discloses a system for positioning and repositioning a portion of a patient's body with respect to a treatment or imaging machine. The system includes multiple cameras (image-recording devices) to view the body and the machine (abstract). The multiple cameras are used to capture three-dimensional scan data, therefore it is inherent that the second camera has a different recording axis from the first (column 3, lines 29-32). Figure 8 shows that recording axis of camera 140A is orthogonal to that the recording axes of cameras 140B and 140D. Additionally, Figure 8 shows that images of the patient are acquired for each movement plane (column 14, line 61 – column 15, line 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the plurality of cameras, as taught by Cosman, in the radiodiagnostic device of Born et al., Baxes, Brunner et al., Kuth et al., and Banks et al., in order to capture three-dimensional data (Cosman, column 3, lines 29-32).

With respect to claims 24-26, the "arrangement for positioning a patient in a medical device" corresponds to the "method for positioning a patient in a medical device" of claims 11-13. The argument is the same as is addressed above.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Damon Conover whose telephone number is (571) 272-5448. The examiner can normally be reached Monday – Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached at (571) 272-7453. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call (800) 786-9199 (IN USA OR CANADA) or (571) 272-1000.

ANDREW W. JOHNS
PRIMARY EXAMINER